

KCC 4788 (K-C 15,397)  
PATENT

AF/1771ZFW  
/B

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of David W. Koenig, et al. Art Unit 1771  
Serial No. 10/029,322  
Filed December 20, 2001  
Confirmation No. 6145  
For PRODUCTS FOR CONTROLLING MICROBIAL GENERATED ODORS  
Examiner Elizabeth M. Cole

December 13, 2004

**NOTICE OF FILING BRIEF ON APPEAL FROM THE EXAMINER  
TO THE BOARD OF PATENT APPEALS AND INTERFERENCES**

TO THE COMMISSIONER FOR PATENTS,

SIR:

- \* Appellant hereby files its Brief on Appeal to the Board of Patent Appeals and Interferences. This appeal is from the Examiner's decision mailed August 5, 2004, finally rejecting the claims. A Notice of Appeal was faxed on October 18, 2004.
- \* The brief fee of \$500.00 is enclosed. If there are any additional charges in this matter, please charge our Deposit Account No. 19-1345.

Respectfully submitted,

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APPEAL BRIEF

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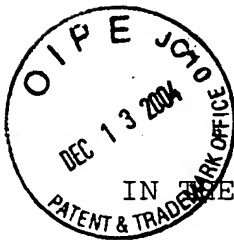
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Application of David W. Koenig, et al.

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Serial No. 10/029,322

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For PRODUCTS FOR CONTROLLING MICROBIAL GENERATED ODORS

Examiner Elizabeth M. Cole

### APPEAL BRIEF

This is an appeal from the final rejection of the claims of the above-identified application made in the Office action dated August 5, 2004. A Notice of Appeal was faxed on October 18, 2004.

#### I. REAL PARTY IN INTEREST

The real party in interest in connection with the present appeal is Kimberly-Clark Worldwide, Inc. of 401 N. Lake Street, Neenah, Wisconsin 54957-0349, a corporation of the state of Delaware, owner of a 100 percent interest in the pending application.

#### II. RELATED APPEALS AND INTERFERENCES

Appellants are unaware of any pending appeals or interferences which may be related to, directly affect or be directly affected by, or have a bearing on, the Board's decision in the pending appeal.

#### III. STATUS OF CLAIMS

Claims 1-6, 9-17, 20-23, 26-28, 31-35, and 38 are currently pending in the application. Claims 7-8, 18-19, 24-25, 29-30,

and 36-37 were cancelled in Amendment A, filed October 21, 2003. A copy of the pending claims appears in the Claims Appendix of this Brief.

Claims 1-6, 9-17, 20-23, 26-28, 31-35, and 38 stand rejected under 35 U.S.C. §103(a). The rejection of claims 1-6, 9-17, 20-23, 26-28, 31-35, and 38 under 35 U.S.C. §103(a) is being appealed.

#### IV. STATUS OF AMENDMENTS

No amendments have been filed after the final rejection.

#### V. SUMMARY OF CLAIMED SUBJECT MATTER

The following summary correlates claim elements to specific embodiments described in the application specification, but does not in any manner limit claim interpretation. Rather, the following summary is provided only to facilitate the Board's understanding of the subject matter of this appeal.

The production of ammonia by bacteria in urine can lead to the release of unwanted and offensive odors (see Specification p. 2, lines 9-10). While ammonia production, and therefore odor, may be reduced or eliminated by killing ammonia producing bacteria, the killing of bacteria is typically non-selective; i.e., all bacteria are killed whether the bacteria are beneficial or non-beneficial to the host organism (see Specification p. 5, lines 11-12). It would thus be advantageous to reduce or eliminate the production of ammonia by bacteria, while not limiting the growth of or killing the bacteria present on and near the skin, mucosa, or within the body (see Specification p. 5, lines 7-10). Thus, the present invention advantageously provides absorbent products which incorporate an

osmoregulation protector, such as glycine betaine, proline betaine, trigonelline, carnitine, and arsenobetaine (see Specification p. 5, lines 30-32). The osmoregulation protectors can interact with bacteria in urine and bacteria on or near the skin's surface, mucosa, or within the body in such a way that the production of ammonia by bacteria is significantly minimized or eliminated, but that other cellular functions of the bacterial cell are not significantly altered or disrupted (i.e., the osmoregulation protectors do not result in death of the bacteria or reduced growth rate of the bacterial cell) (see Specification p. 5, lines 3-7).

The present invention thus relates to absorbent articles which are capable of reducing the amount of odorous compounds such as ammonia produced by bacteria contained in urine as well as bacteria held on or next to the skin's surface (see Specification p. 2, lines 20-23). The absorbent articles contain an osmoregulation protector present in an amount which is capable of interacting with bacteria such that the production of ammonia by the bacteria is minimized (see Specification p. 2, lines 33-35). The osmoregulation protector is selected from the group consisting of glycine betaine, proline betaine, trigonelline, carnitine, and arsenobetaine. In one specific embodiment, the absorbent article is an adult incontinence garment for minimizing the amount of ammonia produced by bacteria contained in urine voided by a wearer (see Specification p. 3, lines 1-3), the garment comprising an osmoregulation protector selected from the group consisting of glycine betaine, proline betaine, trigonelline, carnitine, and arsenobetaine. In another embodiment, the absorbent article is a wet wipe comprising a basesheet and a liquid solution comprising an osmoregulation protector (see Specification p. 10-12) selected from the group consisting of glycine betaine,

proline betaine, trigonelline, carnitine, and arsenobetaine. In yet another embodiment, an adult incontinence garment for minimizing the amount of ammonia produced by bacteria contained in urine voided by a wearer comprises from about about 0.001 milligrams/gram of garment to about 2 milligrams/gram of garment of glycine betaine (see Specification p. 7, lines 3-5).

The present invention also relates to a process for minimizing the amount of ammonia produced by bacteria in voided urine. In one embodiment, the process comprises contacting the voided urine with an amount of osmoregulation protector sufficient to interact with the bacteria in the voided urine such that the production of ammonia by the bacteria is minimized (see claim 28). The osmoregulation protector is selected from the group consisting of glycine betaine, proline betaine, trigonelline, carnitine, and arsenobetaine.

In another embodiment, the process comprises (1) introducing an osmoregulation protector selected from the group consisting of glycine betaine, proline betaine, trigonelline, carnitine, and arsenobetaine into an absorbent product to be worn by a wearer next to the skin to absorb the voided urine, the osmoregulation protector being present in the absorbent product in an amount sufficient to interact with bacteria in the voided urine such that the production of ammonia by the bacteria is minimized, and (2) contacting the absorbent product and osmoregulation protector with urine voided by the wearer such that the osmoregulation protector can interact with bacteria in the urine and decrease the amount of ammonia produced by the bacteria (see claim 32).



VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-6, 9-11, 14-17, 20-23, 26-28, 31-35, and 38 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Mandell, et al. (WO 00/66187) in view of Romano, et al. (WO 97/31092).

Claims 12-13 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Mandell, et al. (WO 00/66187) in view of Romano, et al. (WO 97/31092), and further in view of Lorenzi, et al. (U.S. Patent No. 6,217,889).

VII. ARGUMENT

A. Claims 1-6, 9-11, 14-17, 20-23, 26-28, 31-35, and 38 are patentable under 35 U.S.C. §103(a) over Mandell, et al. (WO 00/66187) in view of Romano, et al. (WO 97/31092).

Claim 1 is directed to an absorbent product for minimizing the amount of ammonia produced by bacteria. The absorbent product comprises an osmoregulation protector selected from the group consisting of glycine betaine, proline betaine, trigonelline, carnitine, and arsenobetaine, and is present in an amount capable of interacting with bacteria such that the production of ammonia by the bacteria is minimized.

Mandell et al. disclose an odor controlling superabsorbent polymer (SAP) having an odor controlling compound homogeneously distributed throughout the SAP. The SAP may be used in sanitary goods, paper diapers, disposable diapers, and similar hygienic goods. The odor controlling compound may be physically dispersed throughout the SAP particle, or bound or grafted to the polymer, or both. The odor controlling compounds of Mandell et al. include cyclodextrin compounds, triclosan, amphoteric

surfactants, water-insoluble phosphates, and mixtures thereof. Within a long laundry list of amphoteric surfactants, Mandell et al. disclose 17 or so betaines as suitable additives. Mandell et al. theorize that the odor controlling compounds may control odor by absorbing ammonia, by slowing and/or preventing the enzymatic formation of malodorous ammonia, and/or by killing microorganisms.

The Examiner has acknowledged that Mandell et al. fail to disclose that glycine betaine can be used in an absorbent article to control ammonia production. Although Mandell, et al. do disclose betaines generally, and 17 or so betaines specifically, there is no disclosure of the specific betaines required by the instant claim 1, i.e., glycine betaine, proline betaine, trigonelline, carnitine or arsenobetaine. Additionally, none of the 19 or so working examples of Mandell et al. disclose the use of any betaine compound as an odor controlling compound, or otherwise.

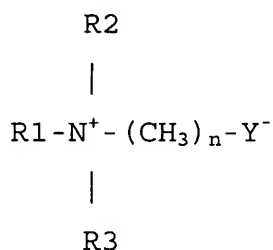
In an attempt to find each and every element of claim 1 as required by the M.P.E.P. for a determination of *prima facie* obviousness,<sup>1</sup> the Office cites the Romano et al. reference for combination with Mandell et al.

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<sup>1</sup>It is well established that in order for the Office to show a *prima facie* case of obviousness, M.P.E.P. §2143 requires that the Office meet three criteria: (1) the prior art reference(s) must teach or suggest all of the claim limitations; (2) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; and (3) there must be some reasonable expectation of success. Further, in evaluating obviousness, the Office must ascertain what would have been obvious to one of ordinary skill in the art at the time the invention was made. The Office has clearly failed to meet its burden under the first prong set forth above as the prior art references have not

Romano et al. disclose disinfecting compositions comprising a peroxygen bleach, a betaine or sulphobetaine surfactant, and an antimicrobial compound. Romano et al. also disclose wipes impregnated with the liquid composition. Romano et al. list suitable betaines, including coconut betaine and lauryl betaine, for use in their claimed compositions, but, similar to the Mandell, et al. reference discussed above, do not specifically list glycine betaine, proline betaine, trigonelline, carnitine, and arsenobetaine, as required by claim 1.

In the Final Office Action, the Office asserts that Romano et al. disclose a wet wipe which is impregnated with a solution which may comprise glycine betaine. Romano et al. indicate that their preferred betaine or sulphobetaine surfactants have the formula:



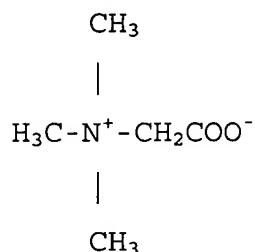
wherein R1 is an alkyl radical containing from 1 to 24 carbon atoms, preferably from 8 to 18, and more preferably from 12 to 14, wherein R2 and R3 contain from 1 to 3 carbon atoms, and preferably 1 carbon atom, wherein n is an integer of from 1 to 10, preferably from 1 to 6 and more preferably 1, Y is selected from the group consisting of carboxyl and sulfonyl radicals and wherein the sum of R1, R2, and R3 radicals is from 14 to 24

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taught or suggested all of the claimed limitations, as explained herein.

carbon atoms.<sup>2</sup> The only specific betaines listed by Romano et al. are lauryl betaine and coconut betaine.

In contrast, glycine betaine has the formula:



The formula of glycine betaine shows that the sum of R1, R2, and R3 is 3 carbon atoms, as opposed to 14 to 24 carbon atoms, as required by Romano, et al. That this 14 to 24 carbon atoms is required by Romano, et al. is further evidenced by the disclosure of suitable betaines; lauryl betaine and coconut betaine, both of which have R1 + R2 + R3 equal to at least 14.

As agreed upon by Examiner Cole and appellant's representative in a telephone interview of February 3, 2004, the formula for betaines in the Romano et al. reference is clearly inconsistent, and may be read in many different ways. As such, Examiner Cole has taken the position that since the disclosure is inconsistent, the language "wherein the sum of R1, R2, and R3 radicals is from 14 to 24 carbon atoms" was not a limitation, but instead was a preferred embodiment of R1, R2, and R3. In support of this position, the Examiner has stated that in

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<sup>2</sup> Romano et al. at p. 8, ln. 1-14 and claim 5 at p. 25, ln. 34 through p. 26, ln. 13 (emphasis added).

situations where R1 is 8-11<sup>3</sup> and R2 and R3 are 1, the sum of R1, R2, and R3 would be outside the range of 14-24.

The Examiner appears to be impermissibly picking and choosing only the portions of Romano, et al. that support her position, while ignoring those portions that clearly lead away from the claimed invention, and are in line with the principal teaching of the invention, i.e., long chain betaines. As stated in M.P.E.P. §2141.02, "a prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention."<sup>4</sup> Furthermore,

[i]t is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.<sup>5</sup>

Reading and interpreting only a portion of the disclosure is thus inconsistent with M.P.E.P. rules. The Romano, et al.

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<sup>3</sup>The Office has stated that 8 to 11 is a preferred range for R1. However, the more preferred value for R1 is actually from 12 to 14 carbon atoms. *Id.* at p. 8, ln. 9-10. Therefore, if R1 is assigned its more preferred value (i.e., 12 to 14 carbon atoms), and R2 and R3 are assigned their preferred value (i.e., 1 carbon atom), the sum of R1, R2, and R3 would be 14 to 16 carbon atoms, which is within the 14 to 24 carbon atom range.

<sup>4</sup>MPEP §2141.02 (citing W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983)).

<sup>5</sup>Chisum §5.03[3][a][i][F], quoting In re Wesslau, 353 F.2d 238, 241, 147 USPQ 391, 393 (CCPA 1965)). See also *id.* at n.42 ("It is not permissible to pick and choose only so much of any given reference as will support a given position and ignore the reference in its totality." (quoting Lubrizol Corp. v. Exxon Corp., 696 F. Supp. 302, 322, 7 USPQ2d 1513, 1527 (N.D. Ohio 1988))).

reference must be read as a whole, taking into consideration the requirement that the sum of R1, R2, and R3 is from 14 to 24 carbon atoms. Thus, this requirement should not, and cannot be read as a preferred, optional embodiment.<sup>6</sup>

Additionally and significantly, Romano et al. use the terms "preferred" and "preferably" six separate times in the paragraph describing preferred betaines. However, neither term, nor a similar term, is used anywhere in reference to the language "wherein the sum of R1, R2, and R3 is from 14 to 24 carbon atoms." As such, this language is not "optional" or "preferred." Therefore, this language must be construed as a positive requirement that limits the group of disclosed betaines in Romano et al. to  $R1 + R2 + R3$  equals from 14 to 24 carbon atoms. This interpretation is consistent with the only specific betaine compounds listed by Romano et al., i.e., lauryl betaine and coconut betaine, which are also the only betaines used in the Examples of Romano, et al. Reading Romano, et al. as a whole, it is clear that Romano, et al. contemplate betaines with an R1 chain much longer than 1 carbon atom, despite some inconsistent statements.

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<sup>6</sup>Analogous case law dealing with claim interpretation supports this position. See Unique Concepts, Inc. v. Brown, 939 F.2d 1558, 1562, 19 USPQ2d 1500, 1504 (Fed. Cir. 1991) ("The statute requires that an inventor particularly point out and distinctly claim the subject matter of his invention...It would run counter to this statutory provision for an applicant for patent to expressly state throughout his specification and in his claims that his invention includes [a limitation] and then be allowed to avoid that claim limitation in a later infringement suit by pointing to one paragraph in his specification stating an alternative that lacks that limitation, and thus interpret the claim contrary to its plain meaning...All the limitations of a claim must be considered meaningful.").

Furthermore, in a recent number of Federal Circuit decisions, the Federal Circuit has suggested that, when a term can reasonably be given two meanings and the specification does not provide a clear basis for selecting one, the narrower reading should be adopted on the ground that the patentee is ultimately responsible for the drafting of the patent application.<sup>7</sup> As such, Romano et al. should be given the narrower reading by making the sum language a positive limitation that cannot be ignored.<sup>8</sup>

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<sup>7</sup>See Chisum §18.03[2][f][iii] (citing Digital Biometrics, Inc. v. Identix Inc., 149 F.3d 1335, 1344-48, 47 USPQ2d 1418, 1424-27 (Fed. Cir. 1998)). See also Ethicon Endo-Surgery, Inc. v. United States Surgical Corp., 93 F.3d 1572, 1581, 40 USPQ2d 1019, 1026 (Fed. Cir. 1996) ("to the extent that the claim is ambiguous, a narrow reading which excludes the ambiguously covered subject matter must be adopted." (citing Athletic Alternatives, Inc. v. Prince Mfg., Inc., 73 F.3d 1573, 1581, 37 USPQ2d 1365, 1372 (Fed. Cir. 1996))); Athletic Alternatives, Inc., 73 F.3d at 1581, 37 USPQ2d at 1372 ("Where there is an equal choice between a broader and narrower meaning of a claim, and there is an enabling disclosure that indicates that the applicant is at least entitled to a claim having the narrower meaning, we consider the notice function of the claim to be best served by adopting the narrower meaning."); Deputy Orthopaedics Inc. v. Androphy, 53 USPQ2d 1941, 1948 (N.D. Ill. 2000); Regents of the University of California v. Oncor, Inc., 44 USPQ2d 1321, 1325-26 (N.D. Cal. 1997) (quoting Athletic Alternatives, Inc. v. Prince Mfg., Inc., 73 F.3d at 1581, 37 USPQ2d at 1372). In Reagents, the claim language was susceptible to two alternative interpretations. The court adopted the narrower construction since it was at least as plausible as the broader construction. The court also stated that "[t]he examples and preferred embodiments of the patent [ ] may shed some light on the meaning of the disputed phrase." Reagents, 44 USPQ2d at 1325.

<sup>8</sup>Appellants note that claim 5 of the reference includes the limitation "...and wherein the sum of R1, R2, and R3 radicals is from 14 to 24 carbon atoms..." (emphasis added).

Additionally, and importantly, even if one skilled in the art would read the requirement that the sum of R1, R2, and R3 is from 14 to 24 carbon atoms as a preferred embodiment (Appellants strongly disagree that this is the proper conclusion under the pertinent MPEP Rules and controlling caselaw), Romano et al. do not teach or suggest the use of glycine betaine. Romano et al. do teach betaines generally, but do not specifically teach or suggest glycine betaine (nor any of the other betaines), as required by claim 1.

Specifically, in order to arrive at Appellants' invention, one skilled in the art would have had to pick and choose from a myriad of options in the Romano et al. reference, without any teaching or suggestion as to which option to choose; with the notable exception of long carbon chain betaines such as coconut betaines and lauryl betaines, which clearly teach away from claim 1. Notably, one skilled in the art would have had to choose from at least two hundred sixteen possible combinations of R1, R2, and R3 to require R1, R2, and R3 to each independently be one carbon atom. The choice of making R1 independently one carbon atom would have had to be made in direct contrast to the principle teaching of the preferred ranges of R1; that of from 8 to 18 carbon atoms and more preferably from 12 to 14, and in direct contrast to each and every specific compound of the cited reference. Significantly, Romano et al. disclose as particularly suitable betaine surfactants C<sub>12</sub>-C<sub>18</sub> alkyl dimethyl betaines such as coconut betaine and C<sub>10</sub>-C<sub>16</sub> alkyl dimethyl betaines such as lauryl betaine. Further, Appellants note that of the four examples in the Romano et al. reference, not one of them include glycine betaine as an ingredient in the liquid composition. The four

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working examples in Romano et al. all disclose coconut betaine and lauryl betaine.<sup>9</sup> Clearly, Romano et al. contemplated the use of these much longer carbon groups in their betaines. Thus, one skilled in the art would not be taught to use one carbon atom for the R1 radical in combination with one carbon atom for both R2 and R3. Romano, et al. thus do not specifically disclose waxes comprising glycine betaine, proline betaine, trigonelline, carnitine, or arsenobetaine. This is a requirement of Appellants' claim 1.

Thus, there is simply no suggestion nor disclosure of glycine betaine, or any of Appellants' claimed betaines, as the osmoregulation protector in an absorbent article as required by claim 1. As such, the Office has failed to make a *prima facie* obviousness case for the use of glycine betaine in an absorbent article. Claim 1 is thus patentable over Mandell et al. in view of Romano et al.

Claims 2-6 and 9-11 depend from claim 1. As such, claims 2-6, and 9-11 are patentable for the same reasons as claim 1 set forth above, as well as for the additional elements they require.

Claim 14 is similar to claim 1 and is patentable for the same reasons as claim 1 set forth above, as well as for the additional requirements it sets forth. Claims 15-17 and 20 depend from claim 14. As such, claims 15-17 and 20 are patentable for the same reasons as claim 14 set forth above, as well as for the additional elements they require.

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<sup>9</sup>Romano et al., at p. 22, ln. 19 through p. 24, ln. 14. Applicants note that both coconut betaine and lauryl betaine have 12 or more carbon atoms at the R1 radical, which makes R1 + R2 + R3 at least 14, as required by the reference.

Claim 21 is similar to claim 1 and is patentable for the same reasons as claim 1 set forth above, as well as for the additional requirements it sets forth. Claims 22-23 and 26 depend from claim 21. As such, claims 22-23 and 26 are patentable for the same reasons as claim 21 set forth above, as well as for the additional elements they require.

Claim 27 is similar to claim 1 and is patentable for the same reasons as claim 1 set forth above, as well as for the additional requirements it sets forth.

Claim 28 is similar to claim 1 and is patentable for the same reasons as claim 1 set forth above, as well as for the additional requirements it sets forth. Claim 31 depends from claim 28. As such, claim 31 is patentable for the same reasons as claim 28 set forth above, as well as for the additional elements it requires.

Claim 32 is similar to claim 1 and is patentable for the same reasons as claim 1 set forth above, as well as for the additional requirements it sets forth. Claims 33-35 and 38 depend from claim 32. As such, claims 33-35 and 38 are patentable for the same reasons as claim 32 set forth above, as well as for the additional elements they require.

B. Claims 12-13 are patentable under 35 U.S.C. §103(a) over Mandell, et al. (WO 00/66187) in view of Romano, et al. (WO 97/31092), and further in view of Lorenzi, et al. (U.S. Patent No. 6,217,889).

The Mandell et al. and Romano et al. references are discussed above.

The Office has cited Lorenzi, et al. primarily for the proposition that liposomes may be incorporated into personal

absorbent articles and cleansing wipes along with betaines to enhance skin soothing properties of the articles and wipes.

Lorenzi et al. disclose disposable personal care articles suitable for cleansing. The articles may comprise a water insoluble substrate, a creped nonwoven layer and a cleansing component. The cleansing component may include amphoteric lathering surfactants, such as betaines. The articles of Lorenzi et al. may also comprise a therapeutic benefit component, such as structured conditioning agents (e.g., liposomes). Significantly, Lorenzi et al. also fail to disclose glycine betaine, proline betaine, trigonelline, carnitine, and arsenobetaine.

Claims 12 and 13 each depend directly from claim 1 and are thus patentable over Mandell, et al. in view of Romano, et al. for the same reasons as discussed above for claim 1. Specifically, Mandell, et al. and Romano, et al. fail to describe or suggest an absorbent product comprising an osmoregulation protector selected from the group consisting of glycine betaine, proline betaine, trigonelline, carnitine, and arsenobetaine. Since, Lorenzi, et al. also fail to disclose an absorbent product comprising an osmoregulation protector selected from the group consisting of glycine betaine, proline betaine, trigonelline, carnitine, and arsenobetaine, Lorenzi et al. do not overcome the shortcomings of Mandell et al. and Romano et al. as discussed above.

Since claim 1 is patentable over the combination of Mandell et al. in view of Romano et al. and further in view of Lorenzi et al. for the reasons set forth above, and has not been rejected under 35 U.S.C. §103(a) over the combination of Mandell et al., Romano et al., and Lorenzi et al., claims 12-13, which depend from claim 1, are therefore also patentable for the same

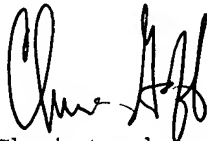
reasons as claim 1 above, and for the additional elements they require.

VIII. Conclusion

A *prima facie* case of obviousness has not been established pursuant to 35 U.S.C. § 103, because the cited art fails to disclose, teach or suggest all the elements of claims 1-6, 9-17, 20-23, 26-28, 31-35, and 38. For these reasons, and for those more fully stated above, Appellants respectfully request the Office's rejections be reversed and claims 1-6, 9-17, 20-23, 26-28, 31-35, and 38 be allowed.

A check for \$500 for the appeal brief is enclosed. The Commissioner is hereby authorized to charge any additional fees which may be required to Deposit Account No. 19-1345.

Respectfully submitted,



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CMG/LJH

CLAIMS APPENDIX

1. An absorbent product for minimizing the amount of ammonia produced by bacteria, said product comprising an osmoregulation protector selected from the group consisting of glycine betaine, proline betaine, trigonelline, carnitine, and arsenobetaine, said osmoregulation protector being present in an amount capable of interacting with bacteria such that the production of ammonia by the bacteria is minimized.

2. The absorbent product as set forth in claim 1 wherein the osmoregulation protector is capable of interacting with bacteria contained in voided urine.

3. The absorbent product as set forth in claim 1 wherein the product is selected from the group consisting of diapers, training pants, adult incontinence garments, feminine napkins, tampons, interlabial pads, facial tissue, wound management products, bath tissue, diaper pails, liners for diaper pails, refuse containers, paper towels, bed pads, wet wipes, and puppy pads.

4. The absorbent product as set forth in claim 1 wherein the product contains from about 0.001 milligrams/gram of product to about 2 milligrams/gram of product of the osmoregulation protector.

5. The absorbent product as set forth in claim 1 wherein the product contains from about 0.01 milligrams/gram of product to about 2 milligrams/gram of product of the osmoregulation protector.

6. The absorbent product as set forth in claim 1 wherein the product contains from about 0.1 milligrams/gram of product to about 2 milligrams/gram of product of the osmoregulation protector.

7. (Canceled)

8. (Canceled)

9. The absorbent product as set forth in claim 1 wherein the osmoregulation protector is glycine betaine.

10. The absorbent product as set forth in claim 1 wherein the osmoregulation protector is encapsulated into a shell material.

11. The absorbent product as set forth in claim 1 wherein the osmoregulation protector is introduced onto the absorbent product utilizing a process selected from the group consisting of spray coating, slot coating, printing and particle impingement.

12. The absorbent product as set forth in claim 1 wherein the osmoregulation protector is introduced into the absorbent product in combination with a liposome carrier.

13. The absorbent product as set forth in claim 1 wherein the osmoregulation protector is introduced into the absorbent product in combination with an emulsion.

14. An adult incontinence garment for minimizing the amount of ammonia produced by bacteria contained in urine voided

by a wearer, said adult incontinence garment comprising an osmoregulation protector selected from the group consisting of glycine betaine, proline betaine, trigonelline, carnitine, and arsenobetaine, said osmoregulation protector being present in an amount capable of interacting with the bacteria contained in the urine such that the production of ammonia by the bacteria is minimized.

15. The adult incontinence garment as set forth in claim 14 wherein the garment contains from about 0.001 milligrams/gram of product to about 2 milligrams/gram of product of the osmoregulation protector.

16. The adult incontinence garment as set forth in claim 14 wherein the garment contains from about 0.01 milligrams/gram of product to about 2 milligrams/gram of product of the osmoregulation protector.

17. The adult incontinence garment as set forth in claim 14 wherein the garment contains from about 0.1 milligrams/gram of product to about 2 milligrams/gram of product of the osmoregulation protector.

18. (Canceled)

19. (Canceled)

20. The adult incontinence garment as set forth in claim 14 wherein the osmoregulation protector is glycine betaine.

21. A wet wipe for minimizing the amount of ammonia produced by bacteria, said wet wipe comprising a liquid solution

and a basesheet, said liquid solution comprising an osmoregulation protector selected from the group consisting of glycine betaine, proline betaine, trigonelline, carnitine, and arsenobetaine, said osmoregulation protector being present in an amount capable of interacting with bacteria on or near the skin's surface such that the production of ammonia by the bacteria is minimized.

22. The wet wipe as set forth in claim 21 wherein the solution contains from about 0.01 milligrams/milliliter of solution to about 2 milligrams/milliliter of solution of the osmoregulation protector.

23. The wet wipe as set forth in claim 21 wherein the solution contains from about 0.1 milligrams/milliliter of solution to about 1 milligram/milliliter of solution of the osmoregulation protector.

24. (Canceled)

25. (Canceled)

26. The wet wipe as set forth in claim 21 wherein the osmoregulation protector is glycine betaine.

27. An adult incontinence garment for minimizing the amount of ammonia produced by bacteria contained in urine voided by a wearer, said garment comprising from about 0.001 milligrams/gram of garment to about 2 milligrams/gram of garment of glycine betaine, said glycine being capable of interacting with the bacteria contained in the urine such that the production of ammonia by the bacteria is minimized.



28. A process for minimizing the amount of ammonia produced by bacteria in voided urine, the process comprising:  
contacting the voided urine with an amount of osmoregulation protector sufficient to interact with the bacteria in the voided urine such that the production of ammonia by the bacteria is minimized, the osmoregulation protector selected from the group consisting of glycine betaine, proline betaine, trigonelline, carnitine, and arsenobetaine.

29. (Canceled)

30. (Canceled)

31. The process as set forth in claim 28 herein the osmoregulation protector is glycine betaine.

32. A process for minimizing the amount of ammonia produced by bacteria in voided urine, the process comprising:  
introducing an osmoregulation protector selected from the group consisting of glycine betaine, proline betaine, trigonelline, carnitine, and arsenobetaine into an absorbent product to be worn by a wearer next to the skin to absorb the voided urine, the osmoregulation protector being present in the absorbent product in an amount sufficient to interact with bacteria in the voided urine such that the production of ammonia by the bacteria is minimized; and

contacting the absorbent product and osmoregulation protector with urine voided by the wearer such that the osmoregulation protector can interact with bacteria in the urine and decrease the amount of ammonia produced by the bacteria.

33. The process as set forth in claim 32 wherein the absorbent product is selected from a diaper and an incontinence garment.

34. The process as set forth in claim 32 wherein the absorbent product contains from about 0.001 milligrams/gram of product to about 2 milligrams/gram of product of the osmoregulation protector.

35. The process as set forth in claim 32 wherein the absorbent product contains from about 0.01 milligrams/gram of product to about 2 milligrams/gram of product of the osmoregulation protector.

36. (Canceled)

37. (Canceled)

38. The process as set forth in claim 32 wherein the osmoregulation protector is glycine betaine.

**EVIDENCE APPENDIX**

None.

**RELATED PROCEEDINGS APPENDIX**

None.